

WHAT IS CLAIMED IS:

1. A multilayer printed wiring board comprising:
a glass substrate having a through hole connecting
opposite surfaces thereof;

5 a plurality of insulating layers and wiring layers
formed on the surfaces of said glass substrate; and

a conducting portion having a conductive film formed
on an inner wall surface of the through hole and providing
conductor connection between the opposite surfaces of said glass
10 substrate,

wherein the conductive film has a thickness of 1 to
20 μm .

2. A multilayer printed wiring board comprising:
15 a glass substrate having a through hole connecting
opposite surfaces thereof;

a plurality of insulating layers and wiring layers
formed on the surfaces of said glass substrate; and

a conducting portion having a conductive film formed
20 on an inner wall surface of the through hole and providing
conductor connection between the opposite surfaces of said glass
substrate,

wherein a protective layer is formed so as to cover
at least the conductive film.

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3. The multilayer printed wiring board according to
claim 1 or 2, wherein the conductive film comprises a film

continuous with the wiring layer.

4. The multilayer printed wiring board according to
any one of claims 1 through 3, wherein the wiring layer has a
5 land width of 10 μm or less.

5. The multilayer printed wiring board according to
any one of claims 1 through 4, wherein the through hole is filled
with a protective film.
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6. The multilayer printed wiring board according to
any one of claims 1 through 5, wherein the through hole has a
diameter of 30 to 150 μm .

7. The multilayer printed wiring board according to
any one of claims 1 through 6, wherein the surfaces of the glass
substrate and at least part of the wall surface of the through
hole are covered with an ion blocking layer mainly comprising
an insulating film.
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8. The multilayer printed wiring board according to
any one of claims 1 through 7, wherein an adhesion-reinforcing
layer is interposed between the wiring layer and the glass
substrate to enhance force of adhesion between the wiring layer
20 and the glass substrate.

9. The multilayer printed wiring board according to

any one of claims 1 through 8, wherein the glass substrate comprises photosensitive glass.

10. The multilayer printed wiring board according to
5 any one of claims 1 through 9, wherein a wiring pattern formed of the wiring layer has a line width of 3 to 50 μm .

11. A process of producing a multilayer printed wiring board, comprising the steps of:

10 forming a through hole in a glass substrate so as to connect opposite surfaces thereof;

forming a plurality of insulating layers and wiring layers on the surfaces of the glass substrate;

15 coating the through hole with a conductive film to provide conductor connection between the opposite surfaces of the glass substrate; and

covering the conductive film with a protective layer.

12. The process according to claim 11, wherein the
20 through hole formation step is performed by laser beam machining.

13. The process according to claim 11, wherein the through hole formation step is performed by photolithography.

25 14. The process according to any one of claims 11 through 13, further comprising the step of modifying the glass

substrate.

15. The process according to claim 14, wherein the glass substrate is modified by crystallizing the entire glass
5 substrate.

10 16. The process according to claim 15, wherein the crystallization of the entire glass substrate is performed following the through hole formation step.

17. The process according to any one of claims 11 through 16, wherein the step of covering the conductive film with a protective layer is performed by screen printing.

15 18. The process according to any one of claims 11 through 17, further comprising the step of dealkalizing the glass substrate.

20 19. The process according to any one of claims 11 through 18, wherein the conductive film and the wiring layer are formed in an identical step.

25 20. The process according to any one of claims 11 through 19, wherein, prior to the formation of the wiring layer, an adhesion-reinforcing layer comprising at least one layer is formed in advance to enhance force of adhesion with the wiring layer.

21. The process according to any one of claims 11 through 20, further comprising the step of polishing at least one of the opposite surfaces of the glass substrate after the conductive film is covered with resin.

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22. The process according to any one of claims 11 through 21, further comprising the step of forming a barrier layer on the wiring layer to protect the wiring layer.

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23. The process according to any one of claims 11 through 22, further comprising the step of forming a wiring pattern of the wiring layer by photolithography, the wiring pattern having a line width of 3 to 50 μm .

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24. The process according to any one of claims 11 through 23, wherein the insulating layer is formed on one surface of the glass substrate at a time.